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| 10/716,059 | 11/18/2003 | Lewis Timothy Lukich | DN2003186 | 4788 |

27280 7590 06/28/2005

THE GOODYEAR TIRE & RUBBER COMPANY
INTELLECTUAL PROPERTY DEPARTMENT 823
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| EXAMINER |
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MAKI, STEVEN D

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| ART UNIT | PAPER NUMBER |
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1733

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/716,059

Applicant(s)

LUKICH ET AL.

Examiner

Steven D. Maki

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>012204</u> . | 6) <input type="checkbox"/> Other: ____ |

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- 1) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- 2) Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the Markush groups for the isobutylene copolymer elastomer and halobutyl rubber ("selected from ... or ..." are improper. In claim 1 next to last line, it is suggested to change "or" (both occurrences) to --and--.

In claim 7, there is no clear antecedent basis for "said isobutylene-based rubbers".

- 3) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Japan 209

- 4) **Claims 1-4, 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 209 (JP 8-324209).**

Japan 209 discloses a pneumatic agricultural tire having a tread having lugs, carcass and sidewalls and beads. See figures 1-2, abstract, and machine translation. The tread comprises a layer 6 comprising a diene rubber and having closed cells. See machine translation. Japan 209 does not specifically recite a lug height of 12.5 cm to 80 cm.

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As to claim 1, it would have been obvious to one of ordinary skill in the art to provide Japan 209's lugs with an average lug height of 12.5 cm to 80 cm since (1) Japan 209's tread lugs are for a pneumatic agricultural tire and (2) it is taken as well known / conventional per se in the tire art to provide the lugs of a pneumatic agricultural tire with a lug height in a range of 12.5 cm to 80 cm in order to obtain desired traction.

In claim 1, "said tread is a closed cellular structured rubber composition" reads on Japan 209's foamed rubber layer 6, which has closed cells.

As to claim 2, it would have been obvious to one of ordinary skill in the art to provide Japan 209's tread with a net to gross of 15-22% since (1) Japan 209's tread is for a pneumatic agricultural tire and (2) it is taken as well known / conventional per se to provide the tread of a pneumatic agricultural tire with a net to gross of less than 35% or less than 25%.

As to claims 3, 4 and 12, the claimed closed cell content and closed cell size would have been obvious and could have been determined without undue experimentation in view of Japan 209's teaching that the closed cell foam layer 6 has specific density of 0.02 to 0.8 and a cell size of for example 100 micrometers (abstract, paragraph 21).

As to claim 8, the foamed rubber comprises a diene system rubber. See paragraph 25 of the machine translation.

5) Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 209 as applied above and further in view of Cole (WO 02/40581) or Egan (US 4249588).

As to claim 5, it would have been obvious to use a blowing agent such as azodicarbonamide to obtain the closed cells desired by Japan 209 in view of Cole or Egan's suggestion to use a blowing agent to obtain a rubber tread having closed cells.

As to claim 6, it would have been obvious to one of ordinary skill in the art to use the specified blowing agent in Japan 209's foam layer 6 since (1) Cole or Egan suggest using a blowing agent in a rubber composition to produce the cellular structure and (2) a "composite of benzenesulfonyl hydrazide and paraffinic oil" is taken as a well known / conventional blowing agent per se for making a closed cell structure.

6) Claims 7, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 209 as applied above and further in view of Ohmori et al (US 4487892) and Russia (SU 1625713).

As to claims 7, 9 and 10, it would have been obvious to one of ordinary skill in the art to use butyl rubber (copolymer of isobutylene and isoprene) / diene based elastomer and butyl rubber (copolymer of isobutylene and isoprene) since (1) Ohmori suggests using a rubber composition comprising 70-99% by weight at least one rubber such as butyl rubber and natural rubber for a tread of a tire such as an agricultural tire to obtain improved controllability and stability and (2) Russia suggests using butyl rubber for an outer rubber layer of a pneumatic agricultural tire. The use of the claimed thin layer (claim 7) would have been obvious since (1) Ohmori suggests using butyl rubber and diene rubber for a tread and (2) it is taken as well known / conventional per se in the tire art to facilitate adhering a rubber layer to a rubber substrate using a thin layer (cushion gum / rubber cement) of like rubber.

Sandstrom et al

7) **Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sandstrom et al (US 2003/0089438) in view of Cole and Japan 209 and optionally Egan.**

Sandstrom et al discloses a pneumatic agricultural tire (farm tractor tire) having a tread, sidewalls, carcass and beads wherein the tread comprises lugs. The lugs have a height of 12.5 cm to 80 cm. The tread comprises a *shock dampening* rubber composition comprising (A) 70 to 100 parts at least one **isobutylene based rubber** selected from (1) butyl rubber as a copolymer of isobutylene and isoprene wherein the copolymer contains from about 2 to about 6 weight percent units derived from isoprene, (2) halobutyl rubber as a halogenated butyl rubber where the halogen is selected from bromine or chlorine, and (3) brominated copolymer of isobutylene and paramethylstyrene (paragraphs 12-17) and (B) zero to about 30 parts at least one **diene based elastomer** selected from polymers of isoprene and/or 1,3-butadiene and copolymers of styrene with isoprene and/or 1,3-butadiene. Sandstrom et al does not recite that the tread rubber has a closed cellular structure.

As to claims 1-12, it would have been obvious to one of ordinary skill in the art to include a blowing agent in Sandstrom et al's rubber composition such that the tread made therefrom is a "closed cellular structured rubber composition" since (1) Sandstrom et al teaches that the disclosed rubber composition provides the tread of a pneumatic agricultural tire with a shock dampening / shock absorbing effect, (2) Cole, directed to the problem of providing a pneumatic tire with a shock absorbing tread, suggests adding

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blowing agents to relatively hard solid rubber formulations to create a relatively hard closed cell sponge rubber having higher dampening characteristics and (3) Japan 209 suggests providing an agricultural tire having lugs with an outer layer comprising closed cells so as to prevent bringing of mud adhered to the tread to the dry road when the vehicle leaves the muddy fields. Hence, Cole motivates one of ordinary skill in the art to include a blowing agent in Sandstrom et al's tread rubber composition for a pneumatic agricultural tire to improve damping properties of the tire. Such an improvement is highly desired by Sandstrom et al since Sandstrom et al characterizes the disclosed rubber composition as being "shock absorbing" (title) / "shock dampening" (paragraph 32). There is a reasonable expectation of success since (1) Japan 409 teaches using a closed cell rubber layer for a pneumatic agricultural tire and optionally (2) Egan teaches that a tire tread having closed cells may comprise butyl rubber or halogenated butyl rubber.

As to claim 2, it would have been obvious to one of ordinary skill in the art to provide Sandstrom et al's tread with a net to gross of 15-22% since (1) Sandstrom et al's tread is for a pneumatic agricultural tire and (2) it is taken as well known / conventional per se to provide the tread of a pneumatic agricultural tire with a net to gross of less than 35% or less than 25%.

As to claims 3, 4 and 12, the claimed closed cell content and closed cell size would have been obvious and could have been determined without undue experimentation in view of Cole's suggestion to add blowing agent so as to obtain desired damping characteristics.

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As to claim 5, Cole teaches using azodicarbonamide as a blowing agent.

As to claim 6, it would have been obvious to one of ordinary skill in the art to use the claimed blowing agent in Sandstrom et al's tread since (1) Cole suggests using a blowing agent in a rubber composition to produce the cellular structure and (2) a "composite of benzenesulfonyl hydrazide and paraffinic oil" is taken as a well known / conventional blowing agent per se for making a closed cell structure.

As to claim 7, Sandstrom et al teaches using a thin layer at paragraph 19.

As to claim 8, Sandstrom et al teaches that the rubber composition may comprise 0-30 parts of at least one diene rubber.

As to claims 9-11, Sandstrom teaches using an isobutylene based rubber. See paragraphs 13-16.

obvious type double patenting

8) The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9) Claims 1-8 and 11-12 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 6,672,350 in view of Cole and Japan 209 and optionally Egan.

Claims 1-7 of US Patent 6,672,350 substantially recite a tire as in claim 1 of this application except for the tread being a "closed cellular structured rubber composition". However, it would have been obvious to one of ordinary skill in the art to include a blowing agent in the rubber composition of the tire of claims 1-7 of US Patent 6,672,350 such that the tread made therefrom is a "closed cellular structured rubber composition" since (1) the tire of claims 1-7 of US Patent 6,672,350 recites that the lugs of the tread are designed to be shock absorbingly ground contacting, (2) Cole, directed to the problem of providing a pneumatic tire with a shock absorbing tread, suggests adding blowing agents to relatively hard solid rubber formulations to create a relatively hard closed cell sponge rubber having higher dampening characteristics and (3) Japan 209 suggests providing an agricultural tire having lugs with an outer layer comprising closed cells so as to prevent bringing of mud adhered to the tread to the dry road when the vehicle leaves the muddy fields. Hence, Cole motivates one of ordinary skill in the art to include a blowing agent in the tread rubber composition the tire of claims 1-7 of US Patent 6,672,350 to improve damping properties of the tire. Such an improvement is highly desired for the tire of claims 1-7 of US Patent 6,672,350 since the tire of claims 1-7 of US Patent 6,672,350 characterize the tread as having lugs "shock absorbingly ground contacting". There is a reasonable expectation of success since (1) Japan 409 teaches using a closed cell rubber layer for a pneumatic agricultural tire and optionally

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(2) Egan teaches that a tire tread having closed cells may comprise butyl rubber or halogenated butyl rubber.

As to claim 2, it would have been obvious to one of ordinary skill in the art to provide the tire of claims 1-7 of US Patent 6,672,350 with a net to gross of 15-22% since (1) the tire of claims 1-7 of US Patent 6,672,350 has lugs with a height of 12.5 cm to 80 cm and (2) it is taken as well known / conventional per se to provide the tread of a pneumatic agricultural tire having lugs of relatively large height with a net to gross of less than 35% or less than 25%.

As to claims 3, 4 and 12, the claimed closed cell content and closed cell size would have been obvious and could have been determined without undue experimentation in view of Cole's suggestion to add blowing agent so as to obtain desired damping characteristics.

As to claim 5, Cole teaches using azodicarbonamide as a blowing agent.

As to claim 6, it would have been obvious to one of ordinary skill in the art to use the claimed blowing agent in the tread rubber composition of claims 1-7 of US 6672350 since (1) Cole suggests using a blowing agent in a rubber composition to produce the cellular structure and (2) a "composite of benzenesulfonyl hydrazide and paraffinic oil" is taken as a well known / conventional blowing agent per se for making a closed cell structure.

As to claims 7, see claim 3 of US Patent 6,672,350.

As to claim 8, claim 1 of US Patent 6,672,350 recites that the rubber composition may comprise 0-30 parts of at least one diene rubber.

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As to claim 11, see part A of claim 1 of US Patent 6,672,350.

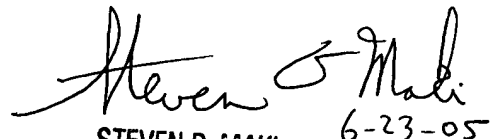
Remarks

- 10) The remaining references are of interest.
- 11) No claim is allowed.
- 12) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven D. Maki
June 23, 2005


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~~GROUP 1300~~
AV 1733
6-23-05